

IN THE CLAIMS

All currently pending claims have been reproduced below.

1. (Previously Presented) A pulse oximeter apparatus comprising:
a pulse oximeter sensor having an output for providing a signal corresponding to a measured physiological characteristic; and
a memory associated with the sensor and located external to a monitor configured to receive the sensor signal, the memory containing data relating to the sensor and containing a digital signature.
2. (Currently Amended) The apparatus of claim 1 wherein the digital signature is signed using a private key, the digital signature being verifiable with a public key in the monitor.
3. (Currently Amended) The apparatus of claim 1 wherein the digital signature comprises a Rabin-Williams signature, an RSA signature, a Diffie-Hellman signature, an El Gamal signature, or an elliptic curve signature.
4. (Previously Presented) The apparatus of claim 1 wherein at least a first portion of the data is contained within said digital signature.
5. (Currently Amended) A method for creating a digital signature in a pulse oximeter apparatus including a memory associated with a pulse oximeter sensor having an output configured to provide a signal corresponding to a measured physiological characteristic, the method comprising:
signing at least a portion of data relating to the sensor to create a digital signature;
storing the digital signature in the memory; and
storing data relating to the sensor in the memory.
6. (Previously Presented) The method of claim 5 comprising:
creating a public key and private key pair;

imbedding the public key in a memory in a sensor reader; and
using the private key to sign the data and create the digital signature.

7. (Previously Presented) The method of claim 5 wherein the digital signature comprises a Rabin-Williams signature, an RSA signature, a Diffie-Hellman signature, an El Gamal signature, or an elliptic curve signature.

8. (Previously Presented) The method of claim 5 comprising imbedding at least a portion of the data in the digital signature.

9. (Previously Presented) A pulse oximeter sensor reader comprising:
a housing;
a sensor input for receiving a signal from a pulse oximeter sensor corresponding to a measured physiological characteristic;
a sensor processing circuit coupled to the sensor input;
a memory input for receiving digital data stored in a memory associated with the sensor, the digital data including a digital signature;
a first sensor reader memory coupled to the memory input for storing the digital data;
a second sensor reader memory storing a signature verification key;
a third sensor reader memory storing a program for verifying the digital signature of the digital data using the signature verification key; and
a transfer circuit for providing at least a portion of the digital data to the sensor processing circuit.

10. (Previously Presented) The sensor reader of claim 9 wherein the first and second sensor reader memories are different portions of the same physical memory.

11. (Previously Presented) The sensor reader of claim 9 wherein the sensor processing circuit comprises a microprocessor.

12. (Previously Presented) The sensor reader of claim 9 wherein the signature verification key is a public key of a private key and public key pair.

13. (Previously Presented) The sensor reader of claim 9 wherein the signature is a Rabin-Williams signature.

14. (Previously Presented) The sensor reader of claim 9 wherein at least a portion of the digital data is imbedded in the digital signature.

15. (Currently Amended) A pulse oximeter system comprising:

- (a) a pulse oximeter sensor apparatus comprising
 - a sensor having an output configured to provide a signal corresponding to a measured physiological characteristic, and
 - a sensor memory associated with the sensor, the sensor memory having digital data relating to the sensor and having a digital signature, the digital signature being a signature of at least a portion of the data; and
- (b) a pulse oximeter sensor reader comprising
 - a sensor reader housing;
 - a sensor input adapted to receive the signal from the sensor corresponding to [[a]] the measured physiological characteristic;
 - a sensor processing circuit coupled to the sensor input;
 - a memory input adapted to receive the digital data from the sensor memory;
 - a first sensor reader memory coupled to the memory input to store the digital data;
 - a second sensor reader memory storing a signature verification key; and
 - a third sensor reader memory storing a program adapted to verify the digital signature using the signature verification key.

16. (Previously Presented) The apparatus of claim 1 wherein the memory associated with the sensor is mounted in an adapter coupled between the sensor and the monitor.

17. (Previously Presented) The method of claim 5 wherein the memory associated with the sensor is mounted in an adapter coupled between the sensor and a monitor.

18. (Previously Presented) The system of claim 15 wherein the memory associated with the sensor is mounted in an adapter coupled between the sensor and the sensor reader.

19. (Previously Presented) A pulse oximeter apparatus comprising:
a sensor having an output configured to provide a sensor signal corresponding to a measured physiological characteristic; and
an adapter coupled to the sensor, the adapter including a memory, the memory containing sensor data and containing a digital signature.

20. (Previously Presented) The apparatus of claim 19 comprising:
an internal monitor in the adapter configured to provide an output signal corresponding to the physiological characteristic; and
a conditioning circuit configured to modify the sensor signal to produce a synthetic sensor signal, such that a second external monitor using the synthetic sensor signal produces an output corresponding to the output signal of the internal monitor.